


Subject – Science

Class- 6

Topic – chapter-3



Exercise

(Use Cordova Smart Class Software on the smart board in class to do these exercises.)

A Tick (✓) the correct options.

- Which material has lustre?
 (a) wood ☐ (b) chalk powder ☐ (c) kerosene ☐ (d) gold ☒
- Which one from the following is soluble in water?
 (a) wooden dust ☐ (b) chalk powder ☐ (c) glucose powder ☒ (d) iron dust ☐
- ✓ Which one has magnetic properties from the following?
 (a) wood ☐ (b) iron ☒ (c) glass ☐ (d) plastic ☐
- Which one floats in water?
 (a) wooden block ☒ (b) pebbles ☒ (c) iron nail ☐ (d) gold ring ☐

B Fill in the blanks.

- Those things which get attracted towards magnets are called magnetic object.
- ✓ Cotton has low density than iron.
- Through transparent object, we can clearly see.
- Those things which cannot be compressed easily are called solids.

C Short answer type questions

- Classify following things on the basis of their compressibility into hard or soft: sponge, hammer, marble, cotton, rubber, chair, gulab jamun.
- Write names of three natural things.
- ✓ What do you mean by magnetic objects? 27
- ✓ Which property of carbon dioxide made it useful to be used in soft drinks? 28

D Long answer type questions

- ✓ Define transparent, translucent, and opaque objects. Explain with examples. 29
- A bronze mug loses its shine when kept in an open environment. Why?
- Explain the magnetic properties of a substance with example.
- (Iron nail sinks in water, while paper boat floats in water.) Why? Explain.

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ADDITIONAL QUESTIONS FOR PRACTICE

A Tick (✓) the correct options.

- Which of the following gases is soluble in water?
 (a) carbon dioxide ☐ (b) oxygen ☐ (c) both (a) and (b) ☐ (d) none of these ☐
- Glass is an example of _____ material.
 (a) transparent ☐ (b) translucent ☐ (c) opaque ☐ (d) soluble ☐
- _____ is an opaque material.
 (a) Wood ☐ (b) Water ☐ (c) Alcohol ☐ (d) Fog ☐

B Match the following.

Column A

- Miscible in water
- Immiscible in water
- Translucent
- Magnetic object

Column B

- iron
- fog
- glycerine
- kerosene oil

C Fill in the blanks.

- The special kind of shine present on materials or the shine that appears when materials are cut is called lustre.
- rough materials have bumps and ridges on their surfaces that can be felt.
- Wax can be compressed, so it is a soft material.
- Particles are loosely packed in solids.
- Gases can be compressed to a large extent.
- Nitrogen gas is partially soluble in water.
- Mustard oil is insoluble in water.
- Density of a substance is mass per unit volume.

D Short answer questions

- ✓ What is an object? 30
- ✓ Define material. 25
- What are natural and human-made materials?
- ✓ Why is gold used for making jewellery? because gold is a noble metal and does not react with oxygen
- ✓ Why are metals used to make household utensils and factory equipment? because metals are strong and durable
- ✓ Name two magnetic objects. Iron nail, Magnet
- What are non-magnetic objects? Give two examples.
- ✓ Give two examples each of substances that are soluble and insoluble in water.
- ✓ Name a gas that is insoluble in water.

E Long answer questions

- What are the advantages of classification?
- (a) Differentiate between lustrous and non-lustrous materials.
 (b) Why do some metals often lose their shine and appear dull?

3. Classify materials on the basis of their physical state. Also, compare them on the basis of their shape, volume, compressibility and arrangement of particles.
4. Write an activity to show that the thing that has more mass in a fixed volume has high density.



Think and answer

Chapter 3: Nature Of Things

Multiple Choice Questions

Page No. 26

1. (b) 2. (c) 3. (d)

Multiple Choice Questions

Page No. 27

1. (b) 2. (a) 3. (a)

Multiple Choice Questions

Page No. 30

1. (a) 2. (c) 3. (c)

EXERCISE

A. Tick (✓) the correct options.

1. (d) 2. (c) 3. (b) 4. (a)

B. Fill in the blanks.

1. magnetic objects 2. lower
3. transparent 4. hard materials

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C. Short answer type questions

1.

Hard materials	Soft materials
hammer, marble, rubber, chair	sponge, cotton, gulab jamun
2. Wood, coal and petroleum are the natural things.
3. The objects that are attracted towards a magnet are called magnetic objects. The objects made of iron are examples of magnetic objects.
4. Carbon dioxide gas gets dissolved in water. So, the property of solubility of carbon dioxide in water made it useful to be used in soft drinks.

D. Long answer type questions

1. The materials through which we can see the objects clearly are called transparent materials. Examples are glass, water, alcohol, air and cellophane paper.
The materials through which we can see the objects partially are called translucent materials. Examples are butter paper, tissue paper, grounded glass, frosted glass, dust-laden air, fog and mist.
The materials through which we cannot see the objects are called opaque materials. Examples are wood, iron, book and cardboard.
2. A bronze mug loses its shine when kept in an open environment because of the action of air and moisture on it.
3. Magnetic property of a substance is its ability to get attracted towards a magnet. Magnetic objects, like iron nails are attracted to a magnet, whereas non-magnetic objects, like wood and plastic, are not attracted to a magnet.
4. The mass per unit volume i.e., the density of iron nail is greater than that of water. Therefore, iron nail being heavier than water, sinks in it. Whereas, the mass per unit volume i.e., the density of paper boat is lesser than that of water. Therefore, paper boat being lighter than water, floats on it.

ADDITIONAL QUESTIONS FOR PRACTICE

A. Tick (✓) the correct options.

1. (c) 2. (a) 3. (a)

B. Match the following.

1. (c) 2. (d) 3. (b) 4. (a)

C. Fill in the blanks.

1. lustre 2. Rough 3. soft 4. gases
5. Gases 6. Nitrogen 7. insoluble 8. Density

D. Short answer questions

1. Anything that we can see or touch is called an object.
2. A substance (or a thing) that is used in making different objects is called a material.

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3. The materials that are obtained from nature (plants and animals) are called natural materials. The materials that do not occur in nature, but are made by humans in factories by combining two or more materials are called human-made materials. For example, wood and coal are natural materials and plastic and steel are human-made materials.
4. Gold is a shiny lustrous metal. So, due to its lustrous nature, it is used for making jewellery.
5. Most metals, such as iron, copper and aluminium, are hard. Due to this quality of hardness, metals are used to make household utensils and factory equipment.
6. Iron and nickel
7. The objects that are not attracted to a magnet are called non-magnetic objects. Wood and plastic are non-magnetic objects.
8. Substances that are soluble in water are salt and sugar.
Substances that are insoluble in water are sand and chalk.
9. Hydrogen/Marsh gas

E. Long answer questions

1. Classification has the following advantages:
- (i) It helps in the systematic study of objects.
 - (ii) It helps in identifying and locating things.
 - (iii) It helps to study the properties of objects of one category and also observe any pattern in these properties.
 - (iv) It helps us know how the objects of a group differ from those of the other groups.

2. (a)

Lustrous materials	Non-lustrous materials
Materials that have lustre (shining surface) are called lustrous materials.	Materials that do not have lustre are called non-lustrous materials.
Iron, copper and gold are some examples of lustrous materials.	Wood, cotton and paper are some examples of non-lustrous materials.

- (b) Some metals often lose their shine and appear dull because of the action of air and moisture on them. We, therefore, notice the lustre only on their freshly cut surfaces.

only on their freshly cut surfaces.

3. Materials are grouped on the basis of their physical state as solid, liquid or gas. The main differences between these three states are as follows:

S. No.	Parameters	Solid	Liquid	Gas
(i)	Shape	Definite	Not definite	Not definite
(ii)	Volume	Definite	Definite	Not definite

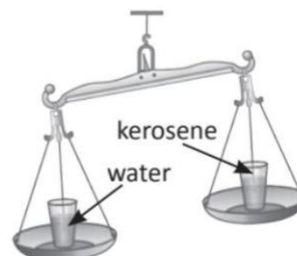
(iii)	Compressibility	Cannot be compressed	Can be compressed to some extent	Can be compressed to a large extent
(iv)	Arrangement of particles	Particles are very closely packed.	Particles are less closely packed in comparison to a solid.	Particles are loosely packed.

4. To show that thing that has more mass in a fixed volume has high density

Things needed: Two identical glasses, water, kerosene and a beam balance

Method:

- Fill one glass with water and the other with kerosene. The level of the liquid in each glass should be the same.
- Place one glass on one pan and the other glass on the other pan of an ordinary beam balance.



Observation: The pan with glass containing water goes down. This shows that the glass containing water has more mass than the glass containing kerosene, despite the fact that their volumes are the same. Water is denser/heavier than kerosene.

Conclusion: Thing that has more mass in a fixed volume has high density.

F. Think and answer

